

Name: \_\_\_\_\_

**pa1106: Factoring with box when  $a = \text{prime}$  (v14)**

**Example**

Use the box to factor  $2x^2 - 9x - 18$ .

Guess and check, based on factor pairs of  $-18$ , until you find the pair that results in a linear coefficient of  $-9$  after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	$-18$

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER:  $(2x + 3)(x - 6)$

**Question 1**

Use the box to factor  $3x^2 + 31x + 36$ .

*	x	
3x	$3x^2$	$27x$
4	$4x$	36

ANSWER:  $(3x + 4)(x + 9)$

### Question 2

Use the box to factor  $7x^2 - 12x - 4$ .

*	x	-2
7x	$7x^2$	-14x
2	2x	-4

ANSWER:  $(7x + 2)(x - 2)$

### Question 3

Use the box to factor  $5x^2 - 29x + 20$ .

*	x	-5
5x	$5x^2$	-25x
-4	-4x	20

ANSWER:  $(5x - 4)(x - 5)$